Commentary on "Happy marriage or "dangerous liaison": ALPPS and the anterior approach"

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Commentary on "Happy Marriage or "Dangerous Liaison": ALPPS and the Anterior Approach"

The interesting letter by Dr Chan et al[1] refers to the inaugural publications of the new ALPPS (Associating Liver Partition and Portal vein ligation for Staged hepatectomy) technique in this journal.[2,3] With the anterior approach, that is, parenchymal transection without prior mobilization of the right lobe or visualization of the vena cava, usually for large right hemi-liver hepatomas, the group from Hong Kong pioneered a new technique and set the standard in surgical oncology for hepatomas.[4] They have now caught interest of the ALPPS technique to induce rapid hypertrophy and used the anterior approach in 2 patients, one with fibrosis from chronic hepatitis B, and the other in a child with hepatoblastoma.

The rising interest in ALPPS has, and will further, lead to technical modifications such as the use of the anterior approach to address the initial concern about higher complication rates and to improve long-term survival.[5] It has been established that the anterior approach confers oncological advantages in conventional liver surgery and is readily applicable to ALPPS. The anterior approach is, however, not necessary in all patients, especially those with multifocal colorectal metastases. We have used the anterior approach in Buenos Aires, Argentina, and Zurich, Switzerland, along with the hanging maneuver,[6] in about half of our 54 patients undergoing ALPPS.

With the letter by Chan et al in hand, we analyzed the International ALPPS Registry (www.alpps.net) and found that in 37% (66/175) patients underwent transection during the first step of ALPPS using the anterior approach and in 42% of the patients (74/175), the hanging maneuver was used with or without anterior approach. Further analyses revealed that the anterior approach was used in 31% of patients with hemiliver hepatoma and 38% of patients with CLRM. The next step ought to be an analysis of safety and long-term oncological outcomes of the anterior approach in ALPPS in the international registry, especially for primary liver tumors. However, the number of primary liver tumors in the international registry is currently still low and therefore we would like to encourage participation of centers, particularly from Asian centers, to include their cases in the registry.

We would like to add that neither the anterior approach per se nor the use of CUSA abrogate the risk for bile leaks and related complications. We agree, however, with the routine application of methods searching for the presence of bile leaks during both steps of ALPPS. Which of the various test proposed, for example, injection of methylene blue or propofol in the biliary system, hydraulic test, or cholangiography, is preferable, remains unclear.

We hope that technical refinements will ultimately make ALPPS an indispensable tool for safer liver surgery with low liver future remnants. The use of the plastic bag or the plastic sheath to cover the cut area and prevent adhesions is certainly not an essential component of ALPPS. ALPPS may certainly be performed without any cover on the cut surface or with resorbable material such as TachoSil®, as it is the routine in Zurich. In the International ALPPS Registry, 35% of centers did not use any coverage on the raw surface after liver transection, 26% used a plastic sheet, 26% Tachosil, and only 16% of centers still used a plastic bag (of a total 192 patients). Although the use of plastic remains a favorite topic, we see no logical link to the anterior approach per se. In addition, we have learned that the most challenging and dangerous adhesions are those that form within the portal pedicle, which cannot be prevented by the plastic bag or the anterior approach.

Likewise, theories about the mechanisms underlying rapid hypertrophy based on the clinical experience of few patients should be considered speculative until we have solid experimental evidence from animals. The relative low rate of hypertrophy observed in 1 of the 2 patients from Hong Kong, compared with an average of 86% increase within 1 week reported by us and others, may indeed be related to the advanced age and fibrosis.[7,8]

Although we agree that the anterior approach is highly suitable in selective situations, we would like to remind readers that ALPPS is a complex procedure where maximal vascular control seems well advised. The marriage of ALPPS and anterior approach may be a happy one but could also a "dangerous liaison" of 2 difficult partners in unexperienced hands.

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